Getting started guide

MDCC 2121, MDCC 3120

MDCG 2121, MDCG 3120, MDCG 3121, MDCG 5121

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Preface

Notice

Although every attempt has been made to achieve technical accuracy in this document, we assume no responsibility for errors that may be found. Our goal is to provide you with the most accurate and usable documentation possible; if you discover errors, please let us know.

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FCC Compliance Information (display)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Canadian notice

This ISM device complies with Canadian ICES-001.

Cet appareil ISM est conforme à la norme NMB-001 du Canada.

FCC Compliance Information (display controller)

CLASS B:

This Barco Graphics Controller complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with manufacturer's instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The use of shielded cables for connection of the monitor to the graphics card is required to ensure compliance with FCC regulations. Changes or modifications to this unit not expressly approved by Barco could void the user's authority to operate this equipment.

Environmental information

Disposal Information

The lamps inside the display contain mercury. Do not throw the display in the trash. Dispose of it as required by local ordinances or regulations.

This equipment has required the extraction and use of natural resources for its production. It may contain hazardous substances for health and environment.

In order to avoid the dissemination of those substances in the environment and to diminish the pressure on natural resources, we encourage you to use the appropriate take-back systems.

Those systems will reuse or recycle most of the materials of your end-of-life equipment in a sound way.

The crossed-out wheeled bin symbol invites you to use those systems.

If you need more information on the collection, reuse and recycling systems, please contact your local or regional waste administrator.

You can also contact us for more information on the environmental performances of our products.

Safety Instructions

General Recommendations

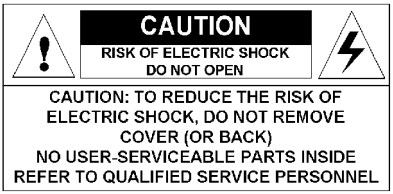
Read the safety and operating instructions before operating the display.

Retain safety and operating instructions for future reference.

Adhere to all warnings on the display and in the operating instructions manual.

Follow all instructions for operation and use.

Electrical shock



Type of protection (electrical):

Display with internal power supply: Class I equipment

Degree of safety (flammable anesthetic mixture):

Equipment not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

Non-patient care equipment

Equipment primarily for use in a health care facility that is intended for use where contact with a patient is unlikely.

Power connection - display with internal power supply

- This apparatus must be earthed.
- Power requirements: The display must be powered by the AC mains voltage.

Power cords:

- Utilize a UL-listed detachable power cord, 3-wire, type SJ or equivalent, 18 AWG min., rated 300 V min., provided with a hospital-grade type plug 5-15P configuration for 120V application, or 6-15P for 240V application.
- Do not overload wall outlets and extension cords as this may result in fire or electric shock.
- Mains lead protection (U.S.: Power cord): Power cords should be routed so that they are not likely to be walked upon or pinched by items placed upon or against them, paying particular attention to cords at plugs and receptacles.

Water and moisture

Never expose the display to rain or moisture.

Never use the display near water - e.g. near a bathtub, washbasin, swimming pool, kitchen sink, laundry tub or in a wet basement.

Ventilation

Do not cover or block the ventilation openings in the cover of the set. When installing the display in a cupboard or another closed location, heed the necessary space between the set and the sides of the cupboard.

Installation

Place the display on a flat, solid and stable surface that can support the weight of at least 3 displays. If you use an unstable cart or stand, the display may fall, causing serious injury to a child or adult, and serious damage to the equipment.

More warnings in the Installation chapter.

Operating precautions

Continuous operation of the display with the same image may result in some image sticking on the LCD panel. Over 10 hours operation with the same image content is not recommended.

Switching on DPMS on display and PC and activating a good screen saver may decrease the risk of image sticking (image retention).

This apparatus conforms to:

CE0120 (MDD 93/42/EEC class IIb product), IEC 60601-1, UL 60601-1, CAN/CSA C22.2 No. 601.01-M90 (c-UL),
CCC GB4943-1995 (IEC 60950-1).

National Scandinavian Deviations for Cl. 1.7.2 :

Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"
Norway: "Apparatet må tilkoples jordet stikkontakt"
Sweden: "Apparaten skall anslutas till jordat uttag"

Explanation of symbols

Symbols on the display and / or power supply

On the display or power supply, you may find the following symbols:

Indicates compliance to the essential requirements of the Directive 93/42/EEC

Indicates the display is approved according to the UL regulations

Indicates the display is approved according to the c-UL regulations

Indicates the display is approved according to the DEMKO regulations

Indicates the display is approved according to the CCC regulations

Indicates the USB connectors on the display

Indicates the manufacturing date

Indicates the temperature limitations for the display to operate within specs

Indicates the display serial no.

Consult the operating instructions

Indicates this apparatus must not be thrown in the trash but must be recycled, according to the European WEEE (Waste Electrical and Electronic Equipment) directive

Symbols used throughout the manual:

Warning: Risk of injury to human beings

Caution: Risk of damage to the product

Important notice or remark

Note

Hint, tip

Additional information

Introduction

Display parts, controls and connectors

Front

The front controls are soft touch keys.

When you touch any of them while no on-screen display (OSD) is on the screen, the front illumination is switched on for a few seconds.

When you touch a key again *while the illumination is on*, the function of the key is executed.

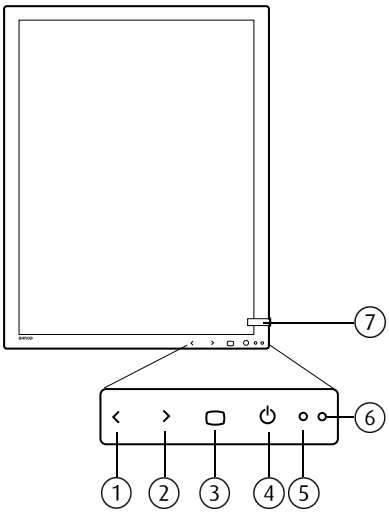


Figure 1: Front view

1. **Left/Down**

   To move down or decrease values in the OSD.

2. **Right/Up**

   To move up or increase values in the OSD.

3. **Enter**

To display the OSD (on-screen display). In the OSD, this button acts as Enter button to make selections.

4. **Standby**

   To put the display in standby mode.

5. **Ambient light sensor**

   Senses the ambient light around the display. The ambient light measurement is taken into account in the DICOM display function calibration.

6. **Power LED**

   Indicates the display's power status.

   Green: Display is on (when enabled in the OSD).

   Orange: Display is in Standby power-saving mode.

   Off: Display is disconnected from the power or the LED's on state is disabled in the OSD.

Note: When the LED is disabled in the OSD, it will still be activated (green) when the display is on but does not receive any video signal.

7. **I-Guard sensor**

   Constantly measures and stabilizes the display light output and (on a color display only) color temperature.

Rear

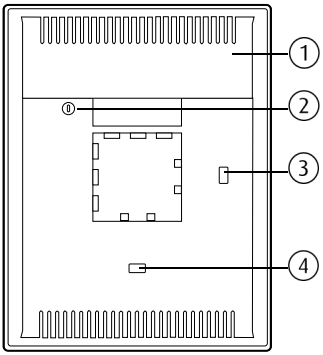


Figure 2: Rear view

1. Connector compartment cover.

Detach to get access to the signal connectors.

2. Slot for security cable (e.g., Kensington lock).

3. Push-button to release the panel unit from the tilt & swivel foot in **landscape** orientation.

4. Push-button to release the panel unit from the tilt & swivel foot in **portrait** orientation.

Connectors

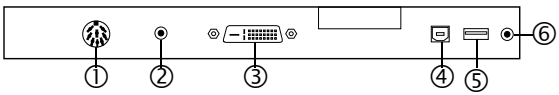


Figure 3: Connectors

1. DC power input.

   Connect the output of the DC power supply delivered with the display to this connector.

2. +5 Vdc, 0.25 A power output for accessories.
3. DVI (digital) video input.
4. USB upstream port (to PC).
5. USB downstream port (to peripheral USB devices).
6. Power output for asset management.

Side

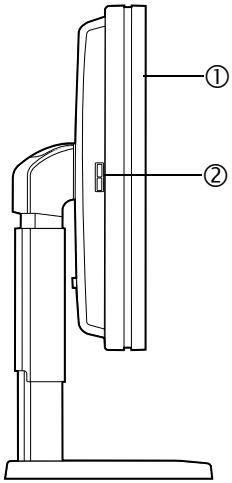


Figure 4: Side view

1. Display panel unit
2. USB downstream ports.

Foot

The display stand is packaged separately from the display panels. After unpacking you have to click the panels to the stand. There are several types of stands, depending on the number of panels in the system.

Single-head stand

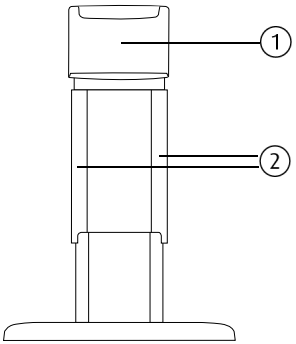


Figure 5: Single-head stand (rear view)

1. Tilt & swivel neck cover.

Detach before connecting the signal cables.

2. Cable duct covers.

Push down and turn to open before connecting the signal cables.

Dual-head stand

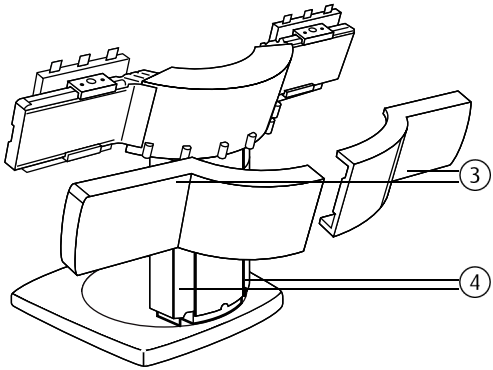


Figure 6: Dual-head stand (rear view)

3. Arm covers.

The covers are packaged separately from the stand. You have to click them to the arms after connecting the signal cables.

4. Cable duct covers.

   Push down and turn to open before connecting the signal cables.

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Display controller installation

Installing your Barco display controller

This chapter will guide you through the physical installation of the display controller(s) for your BARCO CORONIS Display System.

CAUTION – Wear a grounded, protective ESD strap when handling or during installation of the display controller. Electrostatic charges can damage the display controller.

Overview

Prior to installing the display controller(s) for your BARCO CORONIS Display System in your PC please take a few minutes to familiarize yourself with both the display controller(s) and the PCIe slots in your computer.

Types of display controllers for Coronis Display Systems

There are four different models of display controllers available for your BARCO CORONIS Display System.

Board Model	VGA Jumper	Recommended PCIe Slot
BARCO CORONIS MXRT 2100	No	x16
BARCO CORONIS MXRT 5100	No	x16
BARCO CORONIS MXRT 7100	No	x16
BARCOMED CORONIS PCIe	Yes	x8

If you are using the BARCOMED CORONIS PCIe display controller, you will need to decide if you are going to use its on-board VGA capabilities. If you are, check the setting of the Jumper at J-1 on the display controller (see figure 7). By default, VGA should be enabled, on the top two pins. To disable the on-board VGA capabilities of you BARCOMED CORONIS PCIe display controller move the jumper so that it is on the middle and bottom pins.

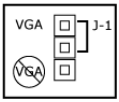

Figure 7: BARCOMED CORONIS PCIe display controller VGA Jumper, VGA enabled

Note: To use multiple BARCOMED CORONIS PCIe display controllers in a single host, you need to enable VGA on only ONE of the BARCOMED CORONIS PCIe display controllers and disable VGA on ALL the other BarcoMed display controllers. To use a BARCOMED CORONIS PCIe display controller with a third party VGA controller or with one or more BARCO CORONIS MXRT display controllers, do **NOT** enable VGA on the BARCOMED CORONIS PCIe display controller.

Which PCIe slot to use

The table on the preceding page lists the different model display controller(s) available for your BARCO CORONIS Display System and the recommended PCIe slot to use for optimum performance. Figure 8 shows the three different types of PCIe slots.

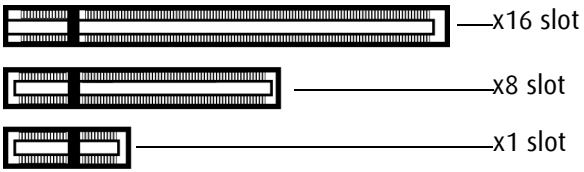

Figure 8: Examples of PCIe slots

Quick installation

Experienced users and system administrators can follow these brief instructions for installing the display controller(s) for your BARCO CORONIS Display System in the shortest possible time.

To perform a quick installation

CAUTION – Wear a **grounded**, protective ESD strap when handling or during installation of the display controller. Electrostatic charges can damage the display controller.

1. If you are not going to use your old graphics card, uninstall the drivers and software for it if you have not already done so.

   Note: If you are using a motherboard containing an on-board graphics solution and do not intend to use it as part of a multiple-display setup, disable it either in the computer's System Set-up utility (BIOS) or the Windows device manager.

2. Shut down and disconnect your computer system.
3. If necessary, remove any previously installed graphics card.
4. Install the display controller(s) for your BARCO CORONIS Display System.
5. Reassemble and connect your computer system.
6. Install the drivers, QAWeb software and documentation for your BARCO CORONIS Display System by following the instructions in the section **"Installing drivers and software"** on page 50 of this manual.

Detailed installation

The following instructions will take you step by step through the installation of the display controller(s) for your BARCO CORONIS Display System.

CAUTION – Wear a grounded, protective ESD strap when handling or during installation of the display controller. Electrostatic charges can damage the display controller.

1. If you are not going to use your old graphics card, uninstall the drivers and software for it if you have not already done so.
2. Turn off the computer, display(s), and other peripheral devices.
3. Unplug the computer's power cord and disconnect all cables from the back of your computer.

Caution – Wait approximately 20 seconds after unplugging the power cord before disconnecting a peripheral or removing a component from the motherboard to avoid possible damage to the motherboard.

4. Remove the computer cover.

   If necessary, consult your computer's manual for help in removing the cover.

5. If necessary, unscrew or unfasten and remove any existing graphics card from your computer.

   Note: If you are using a motherboard containing an on-board graphics solution and do not intend to use it as part of a multiple-display setup, disable it either in the computer's System Set-up utility (BIOS) or the Windows device manager.

6. Locate the appropriate slot and, if necessary, remove the metal back-plate cover(s).

7. Align the display controller(s) for your BARCO CORONIS Display System with the slot(s) and press it(them) in firmly until the card(s) is(are) fully seated.

8. **Note:** This step applies only to the MXRT 5100 and MXRT 7100.

   Connect the power cable to the 6-pin power connection on the graphics card. Make sure the cables are not interfering with anything inside the computer (for example, a cooling fan).

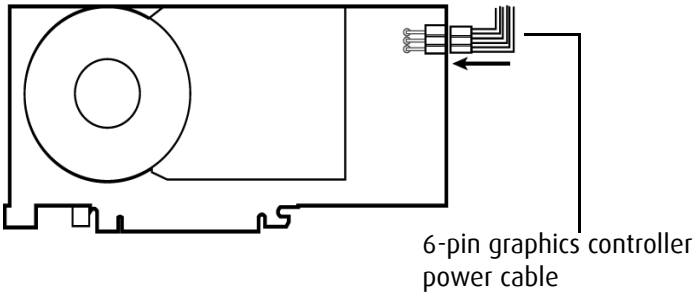

Figure 9: Power connection for the MXRT 5100 and 7100 controllers

9. Screw in or fasten the display controller securely. Replace and secure the computer cover.

10. Connect your BARCO CORONIS Displays to the display controller(s) for your BARCO CORONIS Display System using the cables supplied. Make sure all cables are securely connected before turning on your system. Figures 10 and 11 show the types of connections are available:

Connecting your Barco displays

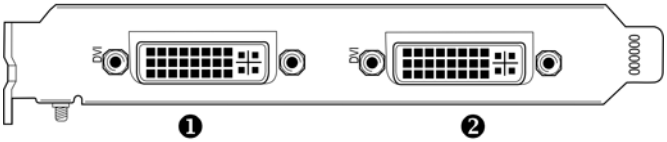

Figure 10:

MXRT 2100 & BARCOMED CORONIS PCIe display controller **Baseplate**

1	Head 1 – DVI-I Connection
2	Head 2 – DVI-I Connection

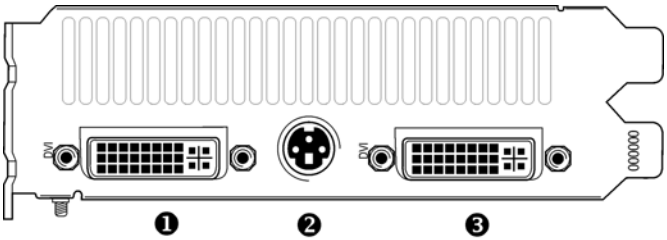

Figure 11:

MXRT 5100 and MXRT 7100 Baseplate

1	Head 1 – DVI-I Connection
2	Stereographics Connection **Note:** This option is not supported in Coronis Systems.
3	Head 2 – DVI-I Connection

11. Reconnect any cables you have disconnected and plug in the computer's power cord.

12. Turn on the display(s) and then your computer.

Turning on your system

WARNING - Turn on your display(s) before you turn on your computer. Failure to do so could damage your display(s).

If you have properly installed your graphics card, the Windows start-up messages will appear once the boot procedure is finished.

Your Barco display(s) will be running in a basic video mode at a default refresh rate. Higher resolutions and refresh rates, such as 1536x2048@60Hz, are not available at this stage of the installation. Once you have installed the BARCO CORONIS Display System drivers and software, the Barco monitor Plug and Play software should automatically set the resolution for the displays of your BARCO CORONIS Display.

13. Install the drivers, QAWeb software and documentation for your BARCO CORONIS Display System by following the instructions in the section **"Installing drivers and software"** on page 50 of this manual.

Display installation

Installation precautions

Precautions

- Keep your original packaging. It is designed for this display and is the ideal protection during transport.
- Avoid reflections in the flat panel to reduce eye strain.
- Place the display on a strong and stable table or desk.
- Keep the display away from heat sources and provide enough ventilation around the display.
- Do not use the display in direct sunlight.
- Do not scratch or apply pressure to the LCD panel. This may damage the panel permanently.

Single-head installation

To attach the panel unit to the display stand:

1. Take the display stand from the packaging and put it on a solid flat surface.
2. Take the panel unit from the packaging and hold it in portrait position. The I-Guard should be positioned bottom right.
3. Hook the top gaps in the rear of the panel (1) over the top anchors of the stand attachment plate (2). see figure 12.
4. Push the bottom of the panel firmly towards the stand so that the bottom anchors (3) clip in the bottom gaps (4).
5. Check that the panel is **firmly attached** to the stand.

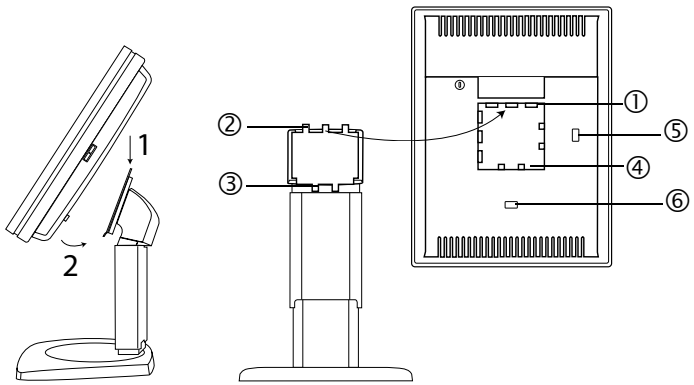

Figure 12: Attaching the panel to the display stand

To detach the panel unit from the display stand:

1. Firmly push the push-button at the rear of the panel (5) or (6). Push button (5) to release the panel in landscape position. Push button (6) to release the panel in portrait position.
2. Pull the bottom of the panel towards you and at the same time lift the panel from the stand attachment plate.

Dual-head installation

To attach the panel units to the dual-head stand:

1. Take the stand from the packaging and put it on a solid flat surface.

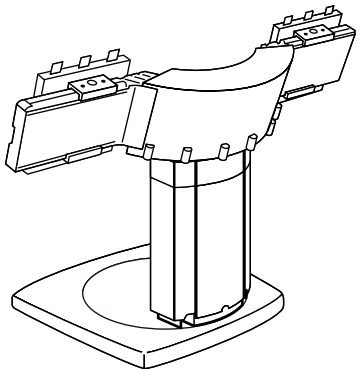

Figure 13: Dual-head stand

2. Unpack the panels.
3. Slide the display brackets on the stand arms in the correct position. The correct position is indicated on a label on the rear of the panels. There is a measure for portrait orientation and one for landscape orientation.

   Position both display brackets so that the indicator on the brackets corresponds to the measure on the label.

   Secure them with the supplied Allen key.

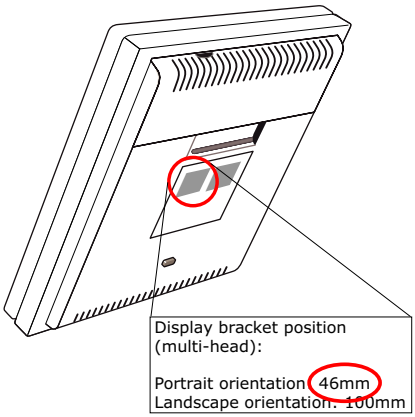

Figure 14: Example of label with position for brackets

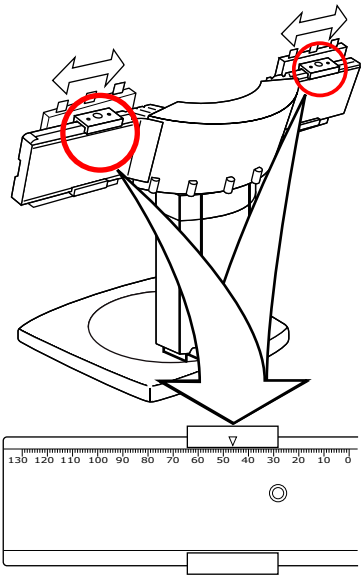

Figure 15: Shift brackets according to label indication

4. Take one of the panels and hold it in the desired position (portrait or landscape).

5. Hook the top gaps in the rear of the panel over the top anchors of the bracket (figure 16 below).
6. Push the bottom of the panel firmly towards the stand so that the bottom anchors clip in the bottom gaps (figure 16 below).

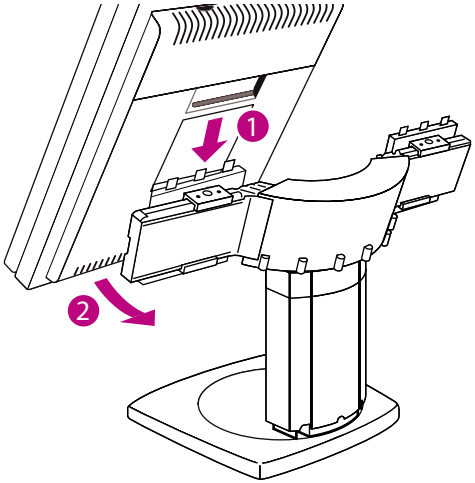

Figure 16:

7. Repeat steps 4. to 6. for the second panel in the packaging.
8. Check that both panels are **firmly** attached.

Vesa-mount installation

Important:

- Use an arm that is approved by VESA (according to the VESA 100 mm standard).
- Use an arm that can support a weight of at least 10 kg (22.05 lbs).

To attach the panel unit to an arm stand:

1. Unscrew the 4 screws (M4 x 8 mm) from the rear of the display panel.
2. Attach the panel **firmly** to the arm stand using 4 screws M4 x 10 mm.

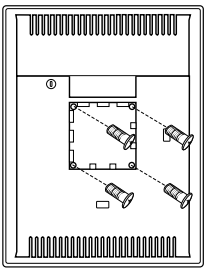

Figure 17: : Vesa mount fixation holes

Adjust panel orientation

To adjust the panel orientation:

1. Before turning the display panel, lift it in its heighest position. If not, the corner of the panel might hit the foot during the rotation.
2. To change from portrait to landscape, turn the panel counterclockwise.
3. To change from landscape to portrait, turn clockwise.

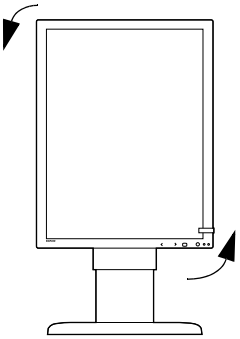

Figure 18: Portrait orientation

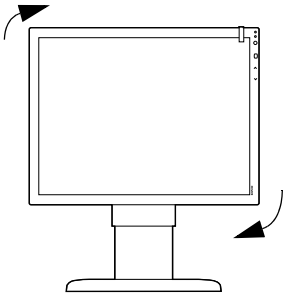

Figure 19: Landscape orientation

Note: To rotate the image after rotating the panel, change the resolution in the Display Properties control panel.

Connecting the signal cables

To connect the signal cables to the display:

1. Make sure the computer is turned off.
2. To get access to the connectors, remove the connector compartment cover (1).

   To remove the cover, gently pull the bottom side of the cover upward or firmly press down the 2 clips at the top side (positions marked in the plastic).
3. To facilitate cable routing afterwards, remove the tilt & swivel neck cover (2). Therefore, first tilt the display panel in upright position. Then lift and pull backward the neck cover.
4. Also to facilitate cable routing afterwards, open both cable duct covers (3).

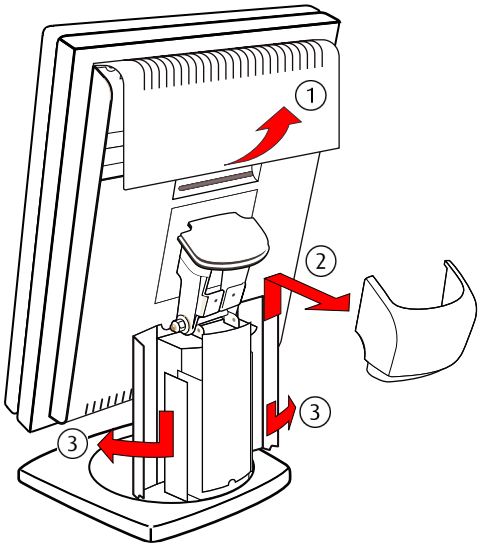

Figure 20: Remove covers before connecting signal cables

5. Connect signal cables:

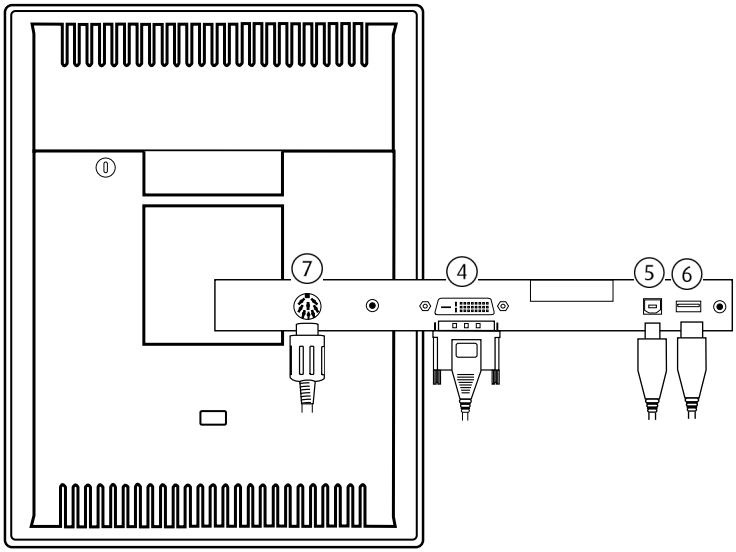

Figure 21: Signal cable connections

- Connect one end of the DVI cable to the DVI input of the display (4). Connect the other end of the DVI cable to the DVI connector of the display controller board.
- Connect a PC USB downstream connector to the display's USB upstream connector by means of a USB cable (5).
- Connect any USB device to one of the display's USB downstream connectors (6)
- Connect the DC power input (7) of the display to the external DC power supply. Connect the other end of the external DC power supply to a **grounded** power outlet by means of the proper power cord delivered in the packaging (8).

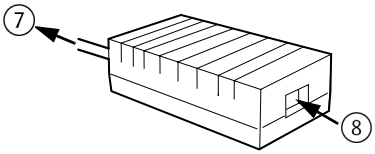

Figure 22: External DC power supply

Cable routing

To route the cables:

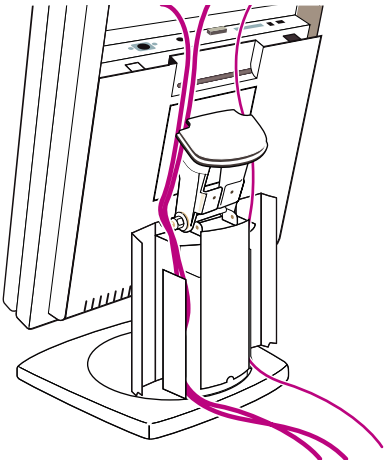

Figure 23: Display rear view

1. Bind the cables in the connector compartment together with the cable tie inside the connector compartment.
2. Route the cables alongside the neck and in the cable ducts in the tilt & swivel foot. See figure 23 above.
3. Re-attach the connector compartment cover and neck cover. Close the cable duct covers. Push the cable duct covers upward to lock them.

To route the cables:

1. Bind the cables in the connector compartments together with the cable ties inside the connector compartments.
2. Re-attach the connector compartment covers.
3. Unpack the plastic stand arm covers and attach them to the display stand.

To attach the arm covers, first slide the covers horizontally over the arms and then push them firmly against the arms so that the covers' plastic clips hook in the grooves in the metal arms.

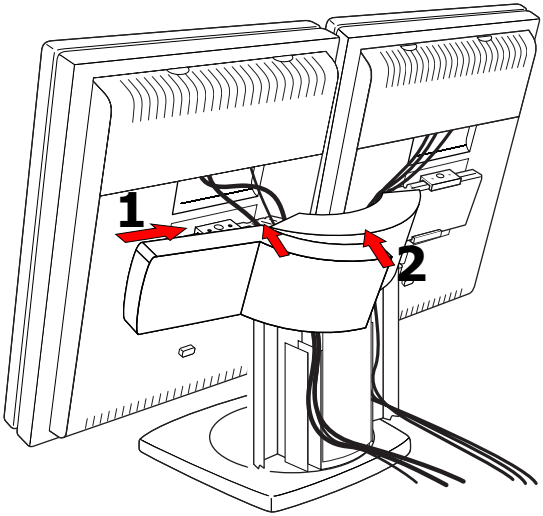

Figure 24: Attach arm covers

4. Close the cable duct covers. Push the cable duct covers upward to lock them.

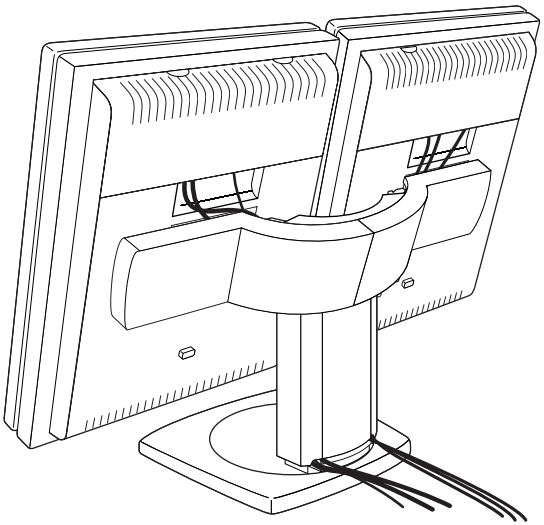

Figure 25: Installation complete

Cleaning instructions

Precautions

Precautions

- Take care not to damage or scratch the glass or LCD panel. Be careful with rings or other jewellery that can touch the glass.
- Do not apply pressure on the glass or LCD panel.
- Do not apply or spray liquid directly to the glass, panel or cabinet as excess liquid may cause damage to internal electronics. Instead, apply the liquid to the cleaning cloth.

Front glass

Proceed as follows:

Clean the glass using a sponge, cleaning cloth or soft tissue, lightly moistened with one of the following allowed products:

- Flux
- Windex Glass Plus
- Bohle glass cleaner
- Mr. Proper
- Pril
- Ajax glass cleaner
- Sidolin glass cleaner

Do NOT use:

- Alcohol/solvents at higher concentration > 5%
- Strong alkalis lye, strong solvents
- Acid
- Detergents with fluoride
- Detergents with ammonia

- Detergents with abrasives
- Steel wool
- Sponge with abrasives
- Steel blades
- Cloth with steel thread

Cabinet

Proceed as follows:

- Clean the cabinet using a soft cotton cloth, lightly moistened with a recognized cleaning product for medical equipment.
- Repeat with water only.
- Wipe dry with a dry cloth.
- The cabinet has been tested for resistance to the following products:
    - Cidex, Betadine
    - Alcohol (Isopropyl and Ethyl)
    - Ammonia-based cleaners (Windex)
    - Aquasonic Gel

Display controller software installation

Installing drivers and software

This chapter will guide you through the installation of the drivers, software and documentation associated with your BARCO CORONIS Display System or BARCO CORONIS Display(s).

Driver and software installation prerequisites

Note: To install or remove the drivers, software, or documentation you must be logged on as a user with administrator privileges.

Your operating system must be installed and running before you can install the driver, software and documentation for the display controller(s) for your BARCO CORONIS Display System.

Before you begin make sure that all of your BARCO CORONIS Display(s) are connected to the appropriate display controller(s) in your system.

Installing drivers and software in Windows

This chapter is divided into two sections. The first section describes the process for installing the drivers and software for the BARCO MXRT family of controllers. The second section describes the process for installing the drivers and software for the BARCOMED CORONIS family of controllers.

Installing the BARCO MXRT drivers and software

Note: The installation dialog will display in English if your operating system's language is not supported.

This process applies to the following versions of Windows:

- Windows 2000 Professional,
- Windows XP Professional,
- Windows Professional x64 Edition,
- Windows Server 2003, and

- Windows Server 2003 x64 Edition.

You will need to install the BARCO CORONIS Display system drivers and software in the following cases:

- After you have installed the display controller(s) for your BARCO CORONIS Display System in your system for the first time.
- After you have reinstalled or upgraded your operating system.

1. Start your system. When the *Found New Hardware Wizard* comes up, click **Cancel**. When the *System Settings Change* window asks you to restart your computer, click **No**.
2. Run the Barco Product Installation Wizard.

   The Barco Product Installation Wizard should start automatically if you insert the BARCO CORONIS Display System Installation CD-ROM into your computer's CD/DVD drive *after* the operating system has started. If your CD/DVD drive's auto-run is not enabled or the Barco Product Installation Wizard does not start automatically, you can run the Barco Product Installation Wizard manually by following these steps:

   a) Click the **Start** button in the task bar.
   b) Click **Run**.
   c) Click **Browse** and browse to the root directory of the BARCO CORONIS Display System Installation CD-ROM and click on the file, **Setup.exe,** and click **Open**.
   d) Click **OK**.

   or

   a) Browse to the root directory of the BARCO CORONIS Display System Installation CD-ROM and double click on the file, **Setup.exe**.
3. Click **Next.**
4. Click **Yes** to accept the terms of the Barco and ATI license agreements. The Barco setup wizard will continue with the installation **only** if you accept the terms of both license agreements. If you click **No**, the wizard will exit.

5. Follow the wizard's on-screen instructions to complete the installation.

Note: There are two options for installing your Barco MXRT controllers driver and software:

Express Installation or
Custom Installation.

In both cases all components will be installed.

If you choose the **Custom** option, you will have the option to modify the following driver settings during the installation process:

- Display Options (color mode),
- Palette Modes, and
- Drawing Modes.

Please refer to your application manuals for information on the correct Color, Palette and Drawing modes to select.

Note: If you select either of the two Static Gray palette modes available under the 256 Color mode, the output from your MXRT display controller will be grayscale and not color when connected to Coronis color displays. For more information about Color, Palette and Drawing modes please refer to the Barco Control Panel section of the Barco on-line User Manual.

If you choose the **Express** option, you can modify the above driver settings through the Barco tab of the advanced options of the Windows Display Control Panel. Once the driver and software installation is complete, you can refer to the Display Properties section of the Barco online user manual for more information about these options.

6. When the driver setup is complete, click the **Finish** button.

The Barco Product Installation Wizard will now guide you through the installation of MediCal QAWeb, BarcoMed SelfExam, and the Barco on-line documentation.

7. When the Setup complete message appears, select **Reboot System Now** and click **Finish**.
8. After the system reboots, Windows may display either the *Digital Signature Not Found* message or *The software you are installing for this hardware has not passed Windows logo testing to verify its compatibility with Windows XP* message. If it does click **Yes** or **Continue** to complete the driver and software installation.

Automated display configuration

Once the drivers, software and documentation have been installed and your system has been rebooted, the *Barco Monitor Plug and Play Software* should automatically detect your Barco displays and attach them to the desktop with the correct resolution. If the *Barco Monitor Plug and Play Software* fails to detect your Barco displays or fails to attach them to the desktop correctly please refer to the section, **Setting the resolution of your BARCO CORONIS Display**, on page 67 in the Troubleshooting section of this manual.

Reinstalling drivers

You can install new drivers or reinstall existing drivers at any time by using the Barco Set-up wizard on your BARCO CORONIS Display System Installation CD-ROM, see **Installing the BARCO MXRT drivers and software**, on page 50 of this manual.

Uninstalling the drivers and software

To uninstall the Barco drivers, software or documentation for your Barco Coronis Display Systems, please use the *Windows Add/Remove Programs* utility. This can be found in the Windows Control Panel.

Note: When uninstalling the Barco MXRT drivers, the devices must be uninstalled in pairs. When the dialog box shown in figure 26 appears select all of the devices listed.

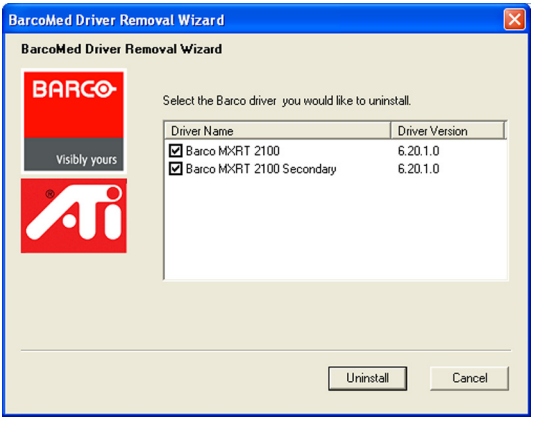

Figure 26: Barco Driver Removal Wizard

Command line (Silent) Install of Drivers and Software

Specifying the silent install option causes most of the GUI associated with the installer to disappear. A background progress window will still be visible, but no user input will be required.

The silent install behavior is dictated by the *SETUP.INI* file. Each application is allowed to have separate command-line parameters for normal and silent installs.

To install the drivers and software silently, please follow the steps below:

1. Insert the BARCO CORONIS Display System Installation CD-ROM into your CD/DVD drive. When the Barco Product Installation Wizard starts click **"Cancel"**.
2. Click the **Start** button in the task bar.
3. Click **Run**.
4. Click **Browse** and
    a) browse to the root directory of the BARCO CORONIS Display System Installation CD-ROM.
    b) Click on the file, **Setup.exe,** and click **Open**.

or

a) browse to the root directory of the location where you saved the contents of your BARCO CORONIS Display System Installation CD-ROM.

b) Click on the file, **Setup.exe,** and click **Open**.

5. In the *Open* address window, place your cursor at the end of the line of text that appears and add the following text after *Setup.exe*, a space and -silent. Click **OK**.

   Example (where D is the name of your CD/DVD drive):

   D:\Setup.exe -silent

   See figure 27 for an example of how the command line window should look when using the silent install from the BARCO CORONIS Display System Installation CD-ROM.

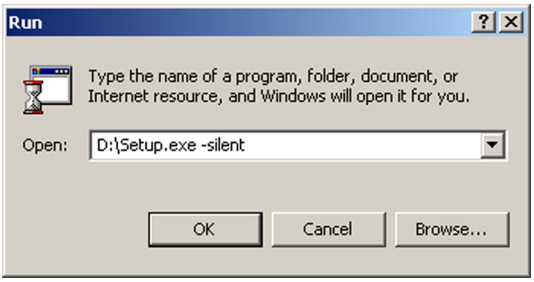

Figure 27:

Installing the BARCOMED CORONIS drivers and software

Note: The installation dialog will display in English if your operating system's language is not supported.

This process applies to the following versions of Windows:

- Windows 2000 Professional,
- Windows XP Professional,
- Windows Professional x64 Edition,
- Windows Server 2003, and

- Windows Server 2003 x64 Edition.

You will need to install the BARCO CORONIS Display system drivers and software in the following cases:

- After you have installed the display controller(s) for your BARCO CORONIS Display System in your system for the first time.
- After you have reinstalled or upgraded your operating system.

1. Start your system. When the *Found New Hardware Wizard* comes up, click **Cancel**. When the *System Settings Change* window asks you to restart your computer, click **No**.
2. Run the Barco Product Installation Wizard.

   The Barco Product Installation Wizard should start automatically if you insert the BARCO CORONIS Display System Installation CD-ROM into your CD drive *after* the operating system has started. If your CD drive's auto-run is not enabled or the Barco Product Installation Wizard does not start automatically, you can run the Barco Product Installation Wizard manually by following these steps:

   a) Click the **Start** button in the task bar.
   b) Click **Run**.
   c) Click **Browse** and browse to the root directory of the BARCO CORONIS Display System Installation CD-ROM and click on the file, **Setup.exe,** and click **Open**.
   d) Click **OK**.

   or

   a) Browse to the root directory of the BARCO CORONIS Display System Installation CD-ROM and double click on the file, **Setup.exe**.
3. Click **Next** on the Welcome page.
4. Click **Next** on the Components to be installed page.
5. Follow the wizard's on-screen instructions to complete the installation.

Note: When the page shown in figure 28 appears you may either click **Next** to accept the default settings or if you know the

settings required for your viewing application, you may select them now and then click **Next**. You may change these settings later by using the Barco pages of the *Windows Display Control Panel*.

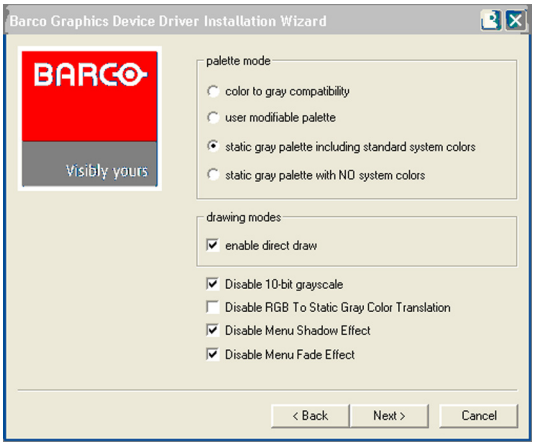

Figure 28:

Please refer to your application manuals for information on the correct Palette and Drawing modes to select.

6. When the driver setup is complete, click the **Finish** button.

   The Barco Product Installation Wizard will now guide you through the installation of MediCal QAWeb, BarcoMed SelfExam, and the Barco on-line documentation.

7. When the Setup complete message appears, select **Reboot System Now** and click **Finish**.

Automated display configuration

Once the drivers, software and documentation have been installed and your system has been rebooted, the *Barco Monitor Plug and Play Software* should automatically detect your Barco displays and attach them to the desktop with the correct resolution. If the *Barco Monitor Plug and Play Software* fails to detect your Barco displays or fails to

attach them to the desktop correctly please refer to the section, **Setting the resolution of your BARCO CORONIS Display**, on page 67 in the Troubleshooting section of this manual.

Reinstalling drivers

You can install new drivers or reinstall existing drivers at any time by using the Barco Set-up wizard on your BARCO CORONIS Display System Installation CD-ROM, see **Installing the BARCOMED CORONIS drivers and software**, on page 55 of this manual.

Uninstalling the drivers and software

To uninstall the Barco drivers, software or documentation for your Barco Coronis Display Systems, please use the *Windows Add/Remove Programs* utility. This can be found in the Windows Control Panel.

Note: If you installed your BARCOMED CORONIS drivers with DualView enabled, the wizard will warn you that DualView must be disabled before the drivers can be uninstalled. This is normal, please follow the prompts from the wizard.

Command line (Silent) Install of Drivers and Software

Specifying the silent install option causes most of the GUI associated with the installer to disappear. A background progress window will still be visible, but no user input will be required.

The silent install behavior is dictated by the *SETUP.INI* file. Each application is allowed to have separate command-line parameters for normal and silent installs.

To install the drivers and software silently, please follow the steps below:

1. Insert the BARCO CORONIS Display System Installation CD-ROM into your CD/DVD drive. When the Barco Product Installation Wizard starts click **"Cancel"**.
2. Click the **Start** button in the task bar.

3. Click **Run**.
4. Click **Browse** and
   a) browse to the root directory of the BARCO CORONIS Display System Installation CD-ROM.
   b) Click on the file, **Setup.exe,** and click **Open**.

   or

   a) Browse to the root directory of the location where you saved the contents of your BARCO CORONIS Display System Installation CD-ROM.
   b) Click on the file, **Setup.exe,** and click **Open**.
5. In the *Open* address window, place your cursor at the end of the line of text that appears and add the following text after *Setup.exe*, a space and -silent. Click **OK**.

   Example (where D is the name of your CD/DVD drive):

   D:\Setup.exe -silent

   See figure 29 for an example of how the command line window should look when using the silent install from the BARCO CORONIS Display System Installation CD-ROM.

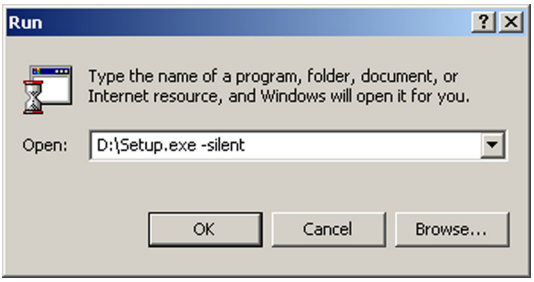

Figure 29:

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Where to get more information

Where to find more information

The following documentation is included with your system:

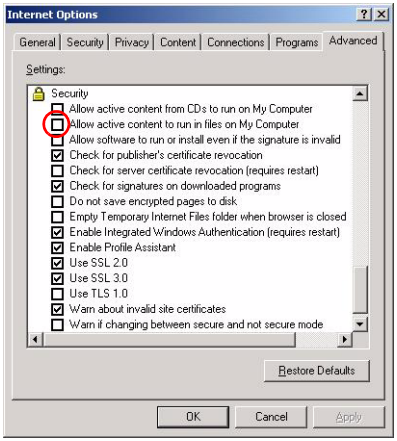
Document	Location	Information
Quick install sheet	System box	Brief overview of the complete system set-up
Online user guide	Installed on the PC	Detailed description of the graphic board control panels and display controls and functions
Getting started guide (PDF)	System CD-ROM	This booklet in PDF format
Online user guide (PDF)	System CD-ROM	Same information as the online user guide on the PC, but in printer-friendly PDF format
QAWeb Agent user guide (PDF)	System CD-ROM	Description of the functions of QAWeb Agent in printer-friendly PDF format

About the online user guide

The online user guide is installed on the system PC during the system driver installation. To open the online user guide, select Start>Program Files>Barco>Documentation>Nio online user guide from the Windows Start menu.

The online user guide uses Java scripts to create the html pages. In Windows XP, SP2, it is possible that Internet Explorer blocks them for security reasons. To display the pages, proceed as follows:

- In Windows control panel, select **Internet Options**
- Select the **Advanced** tab
- In the **Security** section, check the option **Allow active content to run in files on My Computer**


Internet Options
General
Security
Privacy
Content
Connections
Programs
Advanced
Settings:
Security
Allow active content from CDs to run on My Computer
Allow active content to run in files on My Computer
Allow software to run or install even if the signature is invalid
Check for publisher's certificate revocation
Check for server certificate revocation (requires restart)
Check for signatures on downloaded programs
Do not save encrypted pages to disk
Empty Temporary Internet Files folder when browser is closed
Enable Integrated Windows Authentication (requires restart)
Enable Profile Assistant
Use SSL 2.0
Use SSL 3.0
Use TLS 1.0
Warn about invalid site certificates
Warn if changing between secure and not secure mode
Restore Defaults
OK
Cancel
Apply

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Troubleshooting

General tips

- If one display from a multi-head system exhibits problems, try to eliminate the problem by switching video cables or power supplies. In that way you can find out if the problem resides in the display or not.

Configuring the Windows desktop

Note: In order to configure the Windows Desktop of your BARCO CORONIS Display System you must be logged in using an account with administrator privileges.

If you are using a color display in conjunction with your Barco grayscale display(s) or you have you should configure your desktop before setting the resolution of the your Barco grayscale display(s).

Note: If you are using Barco Coronis Color displays and have selected the one of the two Static Gray palette modes for them, you should follow these guidelines also.

Recommended Configuration

The recommended configuration for best grayscale image quality when using a color display in conjunction with your high-resolution grayscale display(s) is to set the *color display* as the **primary** monitor of the Windows desktop. Then set the colors setting on the *"Settings"* tab of the *Windows Display Control Panel* to the highest possible color depth (e.g. 32 bits-per-pixel "true color") supported by the color display's controller.

The colors setting for your high-resolution grayscale displays should default to 256 colors (8 bits per pixel). You should set the **palette mode** for the your high-resolution grayscale displays to *Static Gray palette with NO system colors*. This guarantees that the all of the 256 gray levels available for GDI graphics will be present. This also eliminates the

danger that colors will change when focus moves among different applications.

However, if you are using the *Color to Gray Compatibility* palette mode, the color setting for your high-resolution grayscale displays should default to True Color (32 bits per pixel). Even though this palette mode supports 32 bit True Color, Barco recommends that when using a using a color display in conjunction with your high-resolution grayscale display(s) that you still set the *color display* as the **primary** monitor of the Windows desktop.

Setting the resolution of your BARCO CORONIS Display

Note: In order to set the resolution of your BARCO CORONIS Display you must be logged in using an account with administrator privileges.

1. Open the "*Windows Display Control Panel*" by one of the two methods below:

   a) Start > Settings > Control Panel > Display

   or

   b) Open the *"Display Properties Control Panel"* by right clicking in an empty area on the desktop, then select **Properties**.

2. Click on the **Settings** tab.
3. Select the **rectangle** that represents the Barco Coronis display whose settings you wish to change.

Note: If you are using the VGA capabilities of your Coronis display controller, the resolution for the first display may be set to a VGA resolution of *"640 x 480"* pixels with 16 colors and a default refresh rate. If your Coronis controller is not running VGA, the display may not be enabled yet. To enable the display, check the *"Extend my Windows desktop onto this monitor"* **checkbox**, but do **NOT** click the **Apply** button at this time.

If you installed your BARCO CORONIS Display System drivers in *SingleView* mode (default for Windows 2000) there will be one rectangle for the virtual display representing the two heads controlled by each Coronis display controller.

If you installed your BARCO CORONIS Display System drivers in *DualView* mode (default for Windows XP) there will be a rectangle representing each head controlled by each Coronis display controller. This will be true even if you have only one display connected to your Coronis controller. Both displays of a display controller cannot be enabled at the same time unless their display properties match. If necessary detach the second display of the Coronis display controller you are working with by right clicking on the **rectangle** that represents it, deselect **Attached** and click the **Apply** button.

Note: Since Windows will not let you detach the primary display connected to a particular controller, you may need to temporarily make another display the primary display

4. For the display which is still attached click Click on the **Advanced** Button.
5. Select the **Adapter** tab and then click on the **List All Modes** button. Select the resolution and refresh rate that your BARCO CORONIS Display display supports from the dialog box and click **OK**.

Note: In the Adapter box, the Adapter string shows if this display is the First View or the Second View attached to the display controller. Please make a note of this, so that you can arrange the displays in the correct order later if necessary.

6. Click **OK** on the bottom of the *Adapter Control Panel*. If the *"OK"* button on the bottom of the *Adapter Control Panel* is not visible, press the **TAB** key once and then press **CTRL+Enter** to select **OK**.
7. Click **OK** in the "Windows will now apply your new desktop settings" dialog box. Your BARCO CORONIS Display display should now synchronize and display the Windows desktop.
8. Click **Yes** when asked, "Your desktop has been reconfigured. Do you want to keep these settings?"

To set the resolution of the second display attached to the BarcoMed display controller you are working with, go back to the "Settings" tab of the "Display Properties Control Panel". If necessary attach the second display you detached in step 2 above, by right clicking on the rectangle that represents it and selecting **Attached**.

Now repeat steps 5-8 above for this display.

If you are using a Quad-Head Configuration repeat all of the above steps for the two displays on the second display controller.

Note: If you have a single display configuration and you have enabled DualView, Windows will not allow you to attach the second head. This is normal and not a bug.

After enabling DualView and setting the resolutions in a Quad-Head Configuration you may need to drag the heads into the proper position in the window on the *"Settings"* tab, so that the arrangement in the window on the *"Settings"* tab matches the physical arrangement of your configuration.

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Warranty Statement

ARTICLE 1: SERVICES

Barco n.v. warrants that the equipment will be free of defects in workmanship or material for the warranty period.

Notwithstanding the provisions of clause 2, repair and replacement of defects in material and/or workmanship under this warranty shall be accomplished in our works in the following manner:

1.1 The Customer, upon the occurrence of any equipment failure, shall contact Barco n.v. Customer Support Center (or an authorized service center) by telephone, fax or e-mail and shall provide the applicable Customer Support person with a complete description of the problem being encountered, including the model and serial number of the equipment in which the problem has arisen.

1.2 The Customer Support person shall diagnose the problem experienced by the Customer and shall advise the Customer on how to proceed. Customer Support may ask to return the faulty equipment or faulty subassemblies to the Barco n.v. Customer Support Center (or an authorized service center) for repair activities. The Customer shall ask for a RMA or RAN number to a Barco n.v. Customer Support Center (or an authorized service center).

1.3 The Customer shall return, freight prepaid, the defective equipment or subassemblies for repair to the Barco n.v. Customer Support Center (or an authorized service center).

1.4 Replacement parts used shall be new or equivalent to new parts for the revision level of the equipment. The warranty period for the replacement parts will expire at the same moment as the original warranty period of the equipment. All parts replaced hereunder and returned to Barco n.v. (or an authorized service center) shall become the property of Barco n.v. (or the authorized service center).

1.5 The repaired equipment shall be returned to the Customer, by regular freight, at Barco n.v.'s charge.

ARTICLE 2: ITEMS EXCLUDED FROM WARRANTY

The warranty described herein shall not include the following:

2.1 Any hardware or software item procured from a source other than Barco n.v. or their official agent or distributor and integrated by Customer or a third party into Barco supplied equipment.

2.2 Any host configuration not explicitly supported by Barco n.v..

2.3 All software installed on the system, whether they are acquired from Barco n.v. or third party. An exception is made for software delivered by Barco n.v. that would prove to be a cause for the malfunctioning of the hardware covered under this Agreement.

2.4 Normal wear and tear, use under circumstances exceeding specifications, abuse, unauthorized repair or alternation, lack of proper maintenance.

2.5 Any failures resulting from an accident, negligence (such as but not limited to removing or deleting system files & licensed software product files), misuse, circuit failure or any change, damage due to fire, water, thunder or lightning, power failure or fluctuation, disruption of communication lines or due to force majeure, or any reason foreign to the equipment.

2.6 Any specific services or procedures, asked for by Customer, related to verification of repaired equipment.

ARTICLE 3: OBLIGATIONS OF THE CUSTOMER

Customer hereby assumes the following obligations as partial consideration for Barco n.v. performance of its requirements under the warranty condition; failure by Customer to meet its obligations under this paragraph shall excuse Barco's performance hereunder:

3.1 Customer shall not expose Barco personnel to any unsafe working conditions.

3.2 Repairs to equipment under warranty resulting from improper maintenance or repair performed by the Customer, or its officers, agents, employees, or representatives, shall be borne by the Customer at its additional cost and expense.

3.3 The customer is responsible for installing the Barco n.v. equipment in an environment for which it was intended. If there is an indication that the equipment was used - even temporary - outside its specifications, Barco n.v. is entitled not to perform warranty repairs and terminate the warranty agreement. Any actions that have been taken by Barco n.v. in this respect, may be invoiced to the Customer at normal pricing.

ARTICLE 4: MODIFICATIONS OR CHANGES TO THE EQUIPMENT

Customer may make additions to the equipment only with explicit written consent of Barco n.v..

Any attempt to do so, voids the warranty.

ARTICLE 5: DISCLAIMER OF WARRANTIES

Barco n.v. disclaims all warranties, expressed or implied, including all implied warranties of merchantability and fitness for a particular purpose.

ARTICLE 6: LIMITATION OF LIABILITY

Barco n.v. shall not under any circumstances be liable to customer or any third party for direct, indirect, incidental, special or consequential damages, such as but not limited to, damage to or loss of tangible or intangible property or equipment, loss of profits or revenues, cost of capital, cost of purchase of replacement goods, or claims of customers of user for service interruptions. The liability of Barco n.v. for manufacturing, sale, delivery, resale, installation, operation or suitability for use of any products or services covered by or furnished under this warranty condition, whether arising out of contract, negligence, strict tort, warranty or otherwise, shall not exceed the price of the item or items of goods or services upon which such liability is based.

ARTICLE 7: FORCE MAJEURE

Either party shall be released from performance of its obligations under this agreement to the extent, and for so long as, the performance of this agreement is impeded by reason of force majeure. For the purposes of this clause the expression “force majeure” means, but shall not be limited to, industrial dispute, fire, mobilization, requisition, embargo, currency transfer prohibitions, insurrection, lack of means of transport, restrictions of the use of energy, and generally any circumstances which are beyond the control of the parties and hinder performance by one party of his obligations.

ARTICLE 8: GENERAL

8.1 Customer acknowledges its understanding that all software and electronic devices, including Barco n.v. products are subject to possible error, mechanical or electrical failure, and should not be relied upon in inappropriate applications or without proper backup and/or other safety precautions whenever personal injury or property damage may result from failure or error of the product.

8.2 Barco n.v. shall not be responsible for machine failure and/or its failure to render service or maintenance due to causes beyond its reasonable control.

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